

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.(Currently Amended) A method for operating a wireless communications system for assigning system resources to users, comprising:

within a coverage area of a base station (BS) having a multi-element antenna array having M elements, estimating a spatial signature vector (SSV) for a current subscriber station;

using the estimated SSV as a weight vector, determining the output power that is correlated with a spreading code to be assigned by operating an M-branch receiver to despread a signal received on each element with a spreading code i, accumulating the despread signal over a symbol duration, scaling the accumulated signal by the weight vector, summing all of the scaled values and squaring the result, and averaging the squared result over R samples to determine the output power for code i for the current subscriber station, wherein R has a value in the range of about 16 symbols to about 64 symbols; and

assigning a spreading code that is determined to have the minimum output power to the current subscriber station.

2.(Original) A method as in claim 1, wherein the step of determining the output power includes steering a beamformer toward the current subscriber station by setting the weight vector equal to the SSV.

3-5.(Canceled)

6.(Currently Amended) A method in claim 4claim 1, wherein the value of R is varied as a function of at least a condition of the channel.

7.(Currently Amended) A synchronous space division multiple access, code division multiple access communications system, comprising:

a data processor for estimating, within a coverage area of a radio base unit (RBU) having a multi-element antenna array with M elements, a spatial signature vector (SSV) for a current subscriber station, for using the estimated SSV as a weight vector when determining the output power that is correlated with each of a plurality of spreading code

sequences, and for assigning a spreading code that is determined to have the minimum output power to the current subscriber station; and

an M -branch receiver for despreading a signal received on each element with a spreading code i , for accumulating the despread signal over a symbol duration, for scaling the accumulated signal by the weight vector, for summing all of the scaled values and squaring the result, and for averaging the squared result over R samples to determine the output power for code i for the current subscriber station, wherein R has a value in the range of about 16 symbols to about 64 symbols.

8.(Original) A system as in claim 7, wherein the data processor steers a beamformer toward the current subscriber station by setting the weight vector equal to the SSV.

9-11.(Canceled)

12.(Currently Amended) A system as in ~~claim 10~~claim 7, wherein the value of R is varied as a function of at least a condition of the channel.

13.(Currently Amended) A method for operating a synchronous space division multiple access, code division multiple access communications system for assigning spreading codes to users, comprising:

within a coverage area of a base station (BS) having a multi-element antenna array having M elements, estimating a spatial signature vector (SSV) for a current subscriber station;

using the estimated SSV as a weight vector, determining the output power that is correlated with each of a plurality of spreading code sequences by operating an M -branch receiver to despread a signal received on each element with a spreading code i , accumulating the despread signal over a symbol duration, scaling the accumulated signal by the weight vector, summing all of the scaled values and to square the result, and averaging the squared result over R samples to determine the output power for code i for the current subscriber station, wherein R has a value in the range of about 16 symbols to about 64 symbols; and

assigning a spreading code that is determined to have the minimum output power to the current subscriber station.

14.(Original) A method as in claim 13, wherein the step of determining the output power includes steering a beamformer toward the current subscriber station by setting the weight vector equal to the SSV.

15-17.(Canceled)

18.(Currently Amended) A method in ~~claim 16~~claim 13, wherein the value of R is varied as a function of at least a condition of the channel.